

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

Claims 1-22 (canceled).

23. (Previously Presented) A device for determining an extent of an at least locally etched lateral undercut of a structured surface layer on a sacrificial layer, comprising:

at least one passive electronic component arranged on the structured surface layer and in the shape of a coil, the at least one passive electronic component configured to determine a physical measured quantity that is proportional to the extent of the at least locally etched lateral undercut of the structured surface layer on the sacrificial layer.

24. (Previously Presented) The device according to claim 23, wherein the physical measured quantity corresponds to one of:

a capacitance,
one of an absorbed intensity and an emitted intensity of an electromagnetic emission,
one of an absorbed frequency and an emitted frequency, and
one of an absorbed frequency spectrum and an emitted frequency spectrum of the electromagnetic emission.

25. (Previously Presented) The device according to claim 24, wherein:

the one of the absorbed frequency and the emitted frequency corresponds to a resonance frequency.

26. (Previously Presented) The device according to claim 23, further comprising:

at least one transmitter for emitting a first signal;
at least one receiver for detecting a second signal, the at least one passive electronic component interacting with the first signal and one of generating the second signal and transforming the first signal into the second signal.

27. (Previously Presented) The device according to claim 26, wherein the physical measured quantity is determined from one of:

the second signal, and

a difference between the first signal and the second signal.

28. (Previously Presented) The device according to claim 26, wherein:

the at least one transmitter and the at least one receiver are integrated in an assembly.

29. (Previously Presented) The device according to claim 28, wherein:

the assembly includes a processing unit.

30. (Previously Presented) The device according to claim 26, wherein:

the at least one transmitter is at the same time also the at least one receiver.

31. (Previously Presented) The device according to claim 26, wherein:

the first signal includes one of:

a first voltage applied to the at least one passive electronic component,

an intensity of an electromagnetic emission,

a high-frequency power output that is emitted one of continuously and in pulses and emitted into the at least one passive electronic component, the high-frequency power output having one of a preestablished frequency and a preestablished frequency spectrum, and

a sequence of one of chirped high-frequency pulses and broadband noise pulses of the electromagnetic emission, and

the second signal includes one of:

a second voltage,

one of an absorbed intensity and an emitted intensity of the electromagnetic emission, and

one of a frequency and a frequency spectrum of the electromagnetic emission.

32. (Previously Presented) The device according to claim 31, wherein:

the frequency of the electromagnetic emission corresponds to a resonance frequency.

33. (Previously Presented) The device according to claim 23, wherein:

the coil delineated out in the structured surface layer includes a first coil end and a second coil end,

the coil and a base layer arranged with respect to the structured surface layer and the sacrificial layer form a capacitor having a capacitance proportional to the extent of the lateral undercut.

34. (Previously Presented) The device according to claim 33, wherein:

the coil forms an oscillating circuit having a resonance frequency f_0 , and a change Δf_0 is proportional to the extent of the lateral undercut.

35. (Previously Presented) The device according to claim 33, wherein:

a plated through-hole extends through the sacrificial layer,

the plated-through hole connects one of the first coil end and the second coil end to the base layer.

36. (Previously Presented) The device according to claim 33, wherein:

at least one of the first coil end and the second coil end is dimensioned in an extent thereof such that a complete undercut of the at least one of the first coil end and the second coil end does not occur.

37. (Previously Presented) The device according to claim 23, wherein:

the structured surface layer, at least in an area of the at least one passive electronic component, is separated from a base layer by the sacrificial layer.

38. (Previously Presented) The device according to claim 37, wherein a structure of the base layer corresponds to one of:

a material including one of silicon and polysilicon, and
a silicon wafer.

39. (Previously Presented) The device according to claim 23, wherein:

the structured surface layer, at least in an area of the at least one passive electronic component, is at least weakly electrically conductive and is composed of one of silicon, polysilicon, a surface-metallized silicon, a doped silicon, a surface-metallized polysilicon, and a doped polysilicon.

40. (Previously Presented) The device according to claim 23, wherein:

the sacrificial layer, at least in an area of the at least one passive electronic component, is electrically insulating and includes a silicon oxide layer.

41. (Previously Presented) The device according to claim 23, wherein:

the structured surface layer includes trenches that extend in depth down to the sacrificial layer.

42. (Previously Presented) The device according to claim 41, wherein:

the trenches border a structure, to be undercut, in the structured surface layer.

43. (Previously Presented) A method for determining an extent of a lateral undercut of a structured surface layer on a sacrificial layer, comprising the steps of:

performing a first etching operation to provide at least locally to the structured surface layer a structure including trenches, wherein the first etching operation includes the step of:

locally additionally delineating at least one passive electronic component out of the structured surface layer;

performing a second etching operation that begins from the trenches and generates at least locally the lateral undercut of the structured surface layer;

undercutting the at least one passive electronic component in response to the undercutting of the structured surface layer; and

in response to the undercutting of at least one of the structured surface layer and the at least one passive electronic component, causing the at least one passive electronic component to determine a physical measured quantity proportional to the extent of the lateral undercut.

44. (Previously Presented) The method according to claim 43, wherein:
the step of performing the first etching operation occurs through a masking.
45. (Previously Presented) The method according to claim 43, further comprising the step of:
applying the sacrificial layer on a base layer.
46. (Previously Presented) The method according to claim 43, wherein:
the step of delineating occurs through an etching of the trenches.
47. (Previously Presented) The method according to claim 43, further comprising the step of:
delineating a coil out of the structured surface layer as the at least one passive electronic component.
48. (Previously Presented) The method according to claim 47, further comprising the steps of:
in response to an undercut of the coil, measuring a resonance frequency of an oscillating circuit formed on the basis of the coil; and
determining from the resonance frequency the extent of the lateral undercut.
49. (New) A device for determining an extent of an at least locally etched lateral undercut of a structured surface layer, comprising:
a sacrificial layer having trenches to form the at least locally etched lateral undercut of the structured surface; and
at least one passive electronic component arranged on the structured surface layer and in the shape of a coil, the at least one passive electronic component configured to determine a physical measured quantity that is proportional to the extent of the at least locally etched lateral undercut of the structured surface layer on the sacrificial layer.